



100-Year Voyage of the U.S. Submarine Force

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Captivated by the allure of the unknown, man has always been intrigued by underwater exploration and mysteries of the deep.

Records of submarine ideology go back in history to man's earliest writings. Herodotus (460 B.C.), Aristotle (332 B.C.) and Pliny (77 A.D.) mention attempts by others to build submersibles.

In an effort to conquer the sea's depths, submarines throughout history were propelled by a diversity of mechanisms from oars, sails, treadles, cranks, clockwork, steam, diesel, compressed air, chemicals, springs, gases, motors, hand-cranked screws and, finally, to nuclear power.

Historical inference holds that in the third century Alexander the Great was the first man to submerge underwater in a vessel, rumored to be a large, glass barrel.

Although man tinkered with the idea of an underwater apparatus, no drawing board design came into fruition until Dutch inventor Cornelis Van Drebbel built the first underwater craft in England in the 1620s.

The model, a greased, leather-covered rowboat that carried 12 oarsmen, relied upon the principals

used by today's SNUBA divers. Van Drebbel used air tubes supported on the surface by floats to replenish the oxygen supply while the boat was underwater, permitting a submergence time of several hours.

It was not until the 1770s when American engineer Dave Bushnell invented his Turtle, that the submarine was regarded as a possible instrument of war.

The one-man, egg-shaped craft submerged when a valve admitted seawater into a ballast tank, and surfaced when a hand pump emptied the tank. Because it lacked an underwater oxygen supply, it could only remain submerged for a half-hour.

The Turtle was unsuccessful in an attack on the British war ship HMS Eagle during the American Revolution.

George Washington endorsed the use of the Turtle and discussed the potential military use of submarines in a letter to Thomas Jefferson after the attack on the British war ship.

In 1801, American inventor Robert Fulton introduced two innovations in his cigar-shaped submarine Nautilus: the horizontal and vertical rudders and a flask of compressed air that allowed an approximate five-hour underwater supply of oxygen.

During the American civil war,

four submersible vessels were built for the Confederates.

Proving the advantages of using submarine technology for military purposes, the Hunley blew up the Union ship USS Housatonic with a 90-pound charge of powder on a long pole, but was also destroyed by the explosion.

Although the Navy experimented on their own with a hand-cranked submarine, failed tests demonstrated that the submarine needed a more efficient source of power.

Inventors made many attempts to develop an adequate means of propulsion.

It was not until after extensive sea trials, that the U.S. bought its first successful submarine developed by American inventor John Phillip Holland.

On April 11, 1900, the U.S. government purchased Holland's submarine under a contract drawn between the Secretary of the Navy and the Holland Torpedo Company. This date is recognized today as the official birthday of the submarine service.

The USS Holland, equipped with a gasoline engine for surface cruising, an electric motor for underwater power and armed with Whitehead torpedoes and a bow gun that recessed into the bow, was commissioned on October 12, 1900.

But, the history of the Navy's sub-

marine force could have easily had a different start.

The submarine seaport defenses in 1904 were under the jurisdiction and control of the army.

Army strategies for submarines were to replace and supplement fixed mines, pick up and repair defective cable joints and junction boxes, and prevent countermining by enemy submarines.

To determine a submarine's usefulness to the Army, the War Department appointed a naval board of inspectors to test a submarine made by John Holland's only submarine competitor, American engineer Simon Lake.

The Navy did not accept Lake's earlier submarine design, the Argonaut.

The twin-screw, two-wheeled Protector, however, completed all of the maneuvers that was set before it.

Although maneuverability powers were in question and there were no official timing of speed and records of fuel consumption, the Joint Board of the Army and Navy recommended that the Lake boats be purchased for submarine defense.

Appropriation for Holland's submarine design was in jeopardy.

The Navy Department board was adverse to the purchase of any more "submarine torpedo boats" and

wanted to experiment with them to ascertain their full value.

The Army board wanted to use submarines for mining and coastal defense and recommended that submarines be put under Army supervision as a distinct coast defense.

An amendment during an appropriations meeting with the House of Representatives on February 26, 1904, authorized the Secretary of the Navy appropriations for additional submarines "accepted by the Navy Department as fulfilling all reasons [sic] requirements for submarine warfare and shall have been fully tested [by comparison and competition] to the satisfaction of the Secretary of the Navy."

According to remarks made, the Navy earlier bought six additional Holland boats with recommendations to change aspects of the boat to principles of construction from the Lake boats.

Rivalry and adversity made several contributions toward the development of the modern submarine.

The escape trunk, conning tower, diving planes, control room and angus-eyed omniscopes (periscope), all concepts from Lake's designs, were incorporated into submarine plans.

Still in its infancy, the knack of the submarine force for modernizing and capitalizing on technology had already begun.

Thoughts of a Submariner on 'War Patrol'

Editor's Note: This article originally appeared in Patrol on April 5, 1985, and is reprinted in honor of the submarine veterans of World War II.

On July 2, 1945, USS Pogy (SS 266) departed Pearl Harbor for the Sea of Japan on their tenth and final war period. The boat made a run under minefields and patrolled in the Sea of Japan unit V-J Day.

On July 27, Pogy sank a large freighter with two torpedoes, damaged a 10,000-ton tanker on August 2 and on Aug 5 destroyed the 2,200-ton freighter Kotohirason Maru. The Pogy returned to Midway on August 21 with their World War II career completed.

The following are excerpts taken from a diary kept by a Pogy crewman, a first class torpedoman in the after torpedo room. Diaries were not supposed to be kept. However, over the years the Pacific Submarine Museum has come into the possession of several copies of these unique documents.

These diaries shed light on how the submariner sustained himself during that period of our submarine history.

July 2, 1945: Left Pearl Harbor today to make trial runs off Barbers Point, then off for Guam. As yet no indication as to our area, but its either going to be the Yellow Sea or the Sea of Japan.

July 4: Still underway for Guam. Today is the Fourth of July...but no fireworks this time. Last Fourth I was up in the Yellow Sea on my third run aboard the Tang. We got two ships that day...it was a Fourth I'll never forget.

July 6: Underway to Guam. Charged fish today...nothing went wrong. Most of them are taking a four- to five-hour charge which means having the room torn up most of the time.

July 14: Pulled into Guam today...tied up alongside Sperry.

July 16: Still in Guam: Went out on trial runs with Vice Admiral Lockwood aboard. I haven't seen him in close to a year and a half.

The last time he awarded the crew our combat pins and stars. Also Admiral Nimitz was aboard that day on the Tang. Lockwood seems to be aging fast.

We went out to the sub-crew rest camp today for beer! After riding 22 miles we got five cases of beer! That was enough for two a man! Some !@#\$ I know there's more beer than that on this !@#\$ island.

July 17: Left Guam for our station. As yet don't know where we're going. Usually we would have been told, I guess the old man doesn't want us to start worrying so soon.

July 18: Underway on the surface. Well,

found out the dope is and where we are going...it's the Sea of Japan!

July 22: Underway on the surface. Got word there was a mine floating around top-side and the old man intended to try to sink it.

Two and a half pans of 20mm shells were fired at and still didn't explode it. I was told to try. With only half a pan, I didn't make out so good, I may have hit it with a full pan. The old man got mad and told us to secure!

July 23: On the surface heading for our station. Last time I went through these parts it was submerged all the way.

This place has quieted down! Spotted two unidentified aircraft at 1840. For some reason the skipper didn't seem to be afraid of them. At 1914 we dove because one of them maneuvered around to the sun and came in low with the sun behind him.

Going down with about a 15 degrees down angle, the old man got worried and blew bow buoyancy at 90 feet. Naturally we went right back up to the surface...only with a greater angle than we went down with. At first I thought the conning tower hatch wasn't closed, or a flooded engine room.

We churned around on the surface trying to get down again! I could picture that pilot grinning from ear to ear with his thumb on the bomb release. Finally we got down again and much to my relief-no bombs!

July 25: Now inside the Sea of Japan! I can't begin to explain my emotions...not only for myself but 92 other men. At 0340 we dove at the entrance of Chosen Pass. Our master gyro went out and the FM (frequency modulator) detection gear is out.

By the time we leveled out the gyro was back in commission, a blow out tube. With God's hand the FM gear was ready to be tested. They no sooner had it warmed up than there was a mine contact dead ahead at 100 feet. This was - near the last dive the Pogy had to make.

We scraped the mine cable, but passing below the mine itself. I was playing poker at the time when I heard the scraping sound along the hull. I believe my hair stood on end. There I was sitting there with a full shack, nines full of sixes. I tried to concentrate!

The channel had four mine fields but we

had to pass through, three that boats before had charted. Now there was another extra one stuck in on us. It took us eight hours to get clear. I can say it was the most tense moment of my life thus far. To make things worse, we still have to get out of this !@#\$ place.

July 26: Submerged all day until 1730 then surfaced to chase a small Maru we picked up at 1415.

Bravo! Bravo! At 2120 after a little over a year I heard the first fish kiss the side of a ship and finally Pogy got her first kill since leaving the state this time. At 2045 made tubes 3, 4, 5, 6 ready forward, depth 6 feet.

At 2055 fired number 3 then at ten second intervals number 4, 5 and 6. The target sank in one minute, hardly a chance for any survivors. It was a 5,700-ton ship, a fair sized ship for the first day on station.

July 28: Still floating around up here in this !@#\$ forsaken place.

I charged fish today and as usual the day couldn't go past without some foul up. It seems as though I'm stuck with some kind of "jinx"-nothing that can be blamed upon, just one of those things.

This time it was a dead cell, cracked, in a MK-27 acoustic torpedo which makes it useless for firing. Now I have to transfer it to the aft part of the skid and leave it sit, then unload it when we get back to Guam.

From now on I'm going to say my prayers every night before I hit my rack or I'll find myself sitting on the tender in Guam. We've just got a lemon load in both rooms this run. From now on I can't possible see how anything more can go wrong.

July 31: Dove at 0345. Surface at 1715. Well today we had a little tough luck. At 0155 this morning picked up a pip on the radar at 55,000 yards. Steamed over and found it to be an 8,000-ton tanker loaded all the way.

Made 3, 4, 5, 6, 9 and 10 tubes ready, fired forward but all misses! Fired at 0310 just as we fired, the target blew a loud whistle and turned, evidently picking us up. If I hadn't started getting light we would have tracked her down.

Aug 2: Well we went at it again, sorry to say no hits. But we've found out why we missed last time, it was caused by some foul up in the TDC (torpedo data computer).

We have fired thirteen torpedoes and got one ship. We've got eight MK-18-2 left, one MK-28 and two MK-27.

After the trouble and danger of getting up in here, then not go out with at least five ships! Incidentally, the B-29s were bombing the - out of the mainland, the lookouts could see red flows on the horizon caused by fire-bombs! At least the Army is getting some results!

Aug 4: Charged torpedoes today, for once not a - thing went wrong except a blown fuse on the charging panel.

Aug 5: Dove at 0630. Early this morning SJ picked up a pip at 75,000 yards. Sighted the ship thought to be a medium-sized freighter. But after diving and the range closed, found out it was a medium-sized tanker of about 5,000 tons loaded down.

Went to battle stations. Made ready tubes 1, 2, 3, 4, 9 and 10. I was hoping we fired aft. Fired at range of 950 yards, 90 degrees angle on the bow. The target was traveling on a straight course.

One minute after firing #9 we got a hit, then another muffled explosion which they claim to be #10 going off.

I was glad we got her! It went down in about eleven minutes. We got plenty of good pictures of her going down.

Aug 9: Dove at 0600, lookouts sighted a Mavis flying boat, something like our PBVs. Dove to 150 feet. This dive made the one thousand mark for Pogy. That's a lot of dives to make and still be able to come back up to make another.

Aug 10: Well this is the next to the last day on station and no new dope.

Aug 11: COMSUBPAC sent back a message giving us a two-day extension.

Aug 12: Today the news sounds very, very good. There are peace feelers out.

Aug 13: Well, the war isn't over yet...so far no new developments have been received. Scuttlebutt has been flying fast and furious today.

Aug 14: No new dope on how the war is coming along!

Aug 15: We had a torpedo fired at us that passed about eight feet in front of our bow.

That done it! I sank back in my chair, too weak to run for my life jacket. Brother I had the shakes bad.

Not two minutes after that someone comes back saying the Japanese had accepted to surrender unconditionally.

I didn't know whether to yell out for joy or continue shaking-I continued shaking. This looks like the last run I'll have to make and I'm - glad. My nerves are getting pretty jumpy!

